

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference <b>114404/PCT/2-s</b>	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. <b>PCT/SK2005/000004</b>	International filing date ( <i>day/month/year</i> ) <b>02 March 2005 (02.03.2005)</b>	Priority date ( <i>day/month/year</i> ) <b>08 March 2004 (08.03.2004)</b>	
International Patent Classification (8th edition unless older edition indicated) <b>See relevant information in Form PCT/ISA/237</b>			
Applicant <b>MADAR, Ivan</b>			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

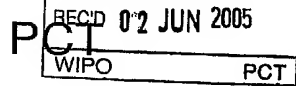
<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report <b>13 September 2006 (13.09.2006)</b></p> <p>Authorized officer  <b>Athina Nickitas-Etienne</b></p> <p>e-mail: pt04@wipo.int</p>
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220



## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

### FOR FURTHER ACTION

See paragraph 2 below

International application No.  
PCT/SK2005/000004

International filing date (day/month/year)  
02.03.2005

Priority date (day/month/year)  
08.03.2004

International Patent Classification (IPC) or both national classification and IPC  
B09B3/00, B29B17/02, B01J8/10, C08F8/50, C22B7/00, B03B9/06, B02C19/18, B02C17/00, B02C17/16

Applicant  
MADAR, Ivan

### 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/SK2005/000004

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/SK2005/000004

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**Re Item V.**

1 Reference is made to the following documents:

- D1 : WO 98/39368 A (MADAR, IVAN) 11 September 1998 (1998-09-11)
- D2 : EP 1 008 395 A (MATSUSHITA ELECTR. IND.) 14 June 2000 (2000-06-14)
- D3 : PATENT ABSTRACTS OF JAPAN vol. 1999, no. 08, 30 June 1999 (1999-06-30) &; JP 11 076980 A (HITACHI), 23 March 1999 (1999-03-23)
- D4 : PATENT ABSTRACTS OF JAPAN vol. 1996, no. 07, 31 July 1996 (1996-07-31) &; JP 08 071521 A (HITACHI CHEM), 19 March 1996 (1996-03-19)
- D5 : PATENT ABSTRACTS OF JAPAN vol. 1997, no. 02, 28 February 1997 (1997-02-28) &; JP 08 274461 A (SONY CO), 18 October 1996 (1996-10-18)

2 Document D1, which is considered to represent the most relevant state of the art, discloses:

a process of thermal decomposition and/or depolymerisation of low grade organic substances, where the low-grade organic substances are subject, at a temperature of 150°C to 700°C, preferably of 250°C to 500°C, and at a pressure of 0.1 MPa to 2.5 MPa, preferably of 0.2 to 1.1 MPa, to the action of a moving bed of solid particles which perform whirling motion, wherein the solid particles constituting the moving bed are set into the whirling motion by intensive agitation with vanes.

From this, the subject-matter of independent claim 1 differs in that:

the method is adapted for processing multi component, composite and combined materials like electric or electronic waste including subsequent steps of pretreatment by removing contaminating components containing toxic heavy metals and PCB's and by grinding the waste to particles having a size of 5 to 25 mm, and then subjecting these particles, in an inert environment, to the action of blades in the moving bed of solid particles, in order to disintegrate and separate the components of the multi component, composite and combined materials.

- 2.1 The subject-matter of claim 1 is therefore novel (Article 33(2) PCT)

The problem to be solved by the present invention may be regarded as to ensure sufficient disintegration and separation of multi component, composite and combined materials waste without any losses of precious metals and without any dangerous residues.

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

D2 - D5 disclose different methods for treating electronic scrap, which work in the claimed temperature and/or pressure ranges but with very different treatment steps and equipment.

There is no hint for a skilled person to eventually combine the teaching of one of the documents D2 - D5 with D1 to arrive at the invention; no combination would lead to the subject matter of claim 1.

- 2.3 Claims 2 - 11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.